

**FIRST YEAR KGCE EXAMINATION IN MECHANICAL ENGINEERING**  
**MECHANICAL ENGINEERING-I (TRADE THEORY)**

**MODEL QUESTION PAPER**

(Time : 3 hours)

(Maximum Marks: 60)

**PART-A**

*(There should be at least 3 questions from each module)*

(Maximum Marks: 20x1 Marks = 20 Marks)

- I. Answer the following questions by choosing the correct answer from the options given below.  
 Each question carries 1 mark.

Q No	Question	Module
1	Property of a material which can be drawn into wire without rupture? a) Malleability b) Ductility c) Elasticity d) Toughness	M 1.4
2	Class of fire caused by burning paper, fire wood, cloth? a) Class 'A' fire b) Class 'B' fire c) Class 'C' fire d) Class 'D' fire	M 1.2
3	What is the product obtained from blast furnace? a) Pig Iron b) Cast iron c) Wrought iron d) Malleable iron	M 1.5
4	Brass is an alloy of? a) Copper+Tin b) Copper+Zinc c) Copper+Gold d) Copper+Aluminium	M 1.5
5	Which file is used to make the job close to the finishing size? a) Single cut file b) Curved cut file c) Second cut file d) Double cut file	M 2.2
6	Which caliper is used to mark the centre of a round bar? a) Jenny caliper b) Inside caliper c) Outside caliper d) Firm joint caliper	M 2.2
7	Which type of taper is provided in the drill shank? a) Pin taper b) Metric taper c) Morse taper d) Jarno taper	M 2.3
8	Which tool is used in sheet metal to scribe a circle or arc with large diameter? a) Spring compass b) Trammel c) Wing compass d) Ordinary compass	M 2.5
9	Which file is used for filing wood and leather? a) Hand file b) Bastard file c) Rasp cut file d) Single cut file	M 2.3
10	Name the tool used for making fluid tight joint in riveting? a) Drift b) Rivet Snap c) Fullering tool d) Caulking tool	M 2.5
11	Filler rod used in gas welding of stainless steel? a) Pure Aluminium b) Copper silver alloy c) Columbium stainless steel d) Copper coated mild steel	M 3.5

Q No	Question	Module
12	Which arc welding machine is preferred anywhere in the field work even away from electric lines? a) Rectifier set c) Engine generator set	M 3.7
	b) Motor generator set d) AC welding transformer	
13	Which of the following factor determines the current setting during welding? a) Type of joint c) Length of electrode	M 3.8
	b) Position of weld d) Diameter of electrode	
14	Which one of the following is the type of transformer used in arc welding? a) Step-down c) One-to-one	M 3.7
	b) Step up d) Capable of increasing supply voltage	
15	Acetylene is the product of chemical reaction between calcium carbide and ..... a) Air c) Kerosene oil	M 3.10
	b) Water d) Lubricating oil	
16	Which gauge is used to compare the profile of a thread? a) Plug gauge c) Radius gauge	M 4.2
	b) Feeler gauge d) Screw pitch gauge	
17	What is the unit of cutting speed in turning? a) mm/sec c) m/min	M 4.3
	b) m/sec d) mm/min	
18	The operation carried out in turning to remove burr and sharpness from the edge of the component? a) Grooving c) Step turning	M 4.3
	b) Chamfering d) Plain turning	
19	What is the purpose of back gear unit in lathe/ a) Reduce the spindle speed c) Quick change spindle speed	M 4.1
	b) Increase the spindle speed d) To avoid abnormal impact on spindle	
20	Which one of the following lathe is suitable for mass production? a) Turret lathe c) Both (a) & (b)	M 4.1
	b) Capstan lathe d) Bench lathe	

### PART-B

(There should be at least 2 questions from each module)  
(Maximum Marks: 8x5 Marks = 40 Marks)

II. Answer *any eight* questions from the following. Each question carries marks.5 Marks.

Q No	Question	Module
1	Differentiate between IC & EC engines?	M 1.4
2	List various safety practices and precautions to be followed for safe working in a shop floor?	M 1.2
3	Explain different power transmission methods used in industry?	M 1.4
4	List various hand tools used in fitting section and explain any 3 of them with neat figure?	M 2.2
5	Explain different filing methods?	M 2.4
6	List various stakes used in sheet metal workshop and explain any one of them with neat figure?	M 2.5

<b>Q No</b>	<b>Question</b>	<b>Module</b>
7	Define coating factor and state the system of electrode coding?	M 3.5
8	Differentiate between straight and reverse polarity?	M 3.8
9	Explain the need of edge preparation in welding and types of edge preparation methods?	M 3.3
10	Show different parts of a centre lathe with a neat sketch?	M 4.1
11	List various accessories used in a lathe and state their applications?	M 4.4
12	Explain various taper turning methods used in a lathe?	M 4.3